



STANDARDIZED TECHNICAL DATA PACKAGES

Implementation of AP 232 for data exchanges

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Context

- ☐ Technical teams distributed in the company
- ☐ Vast amount of data and models managed by different systems (Databases, File systems...)
- ☐ Large cooperations

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 General problem of



- » data exchange inside the company
- » data exchange with clients, partners, sub-contractors

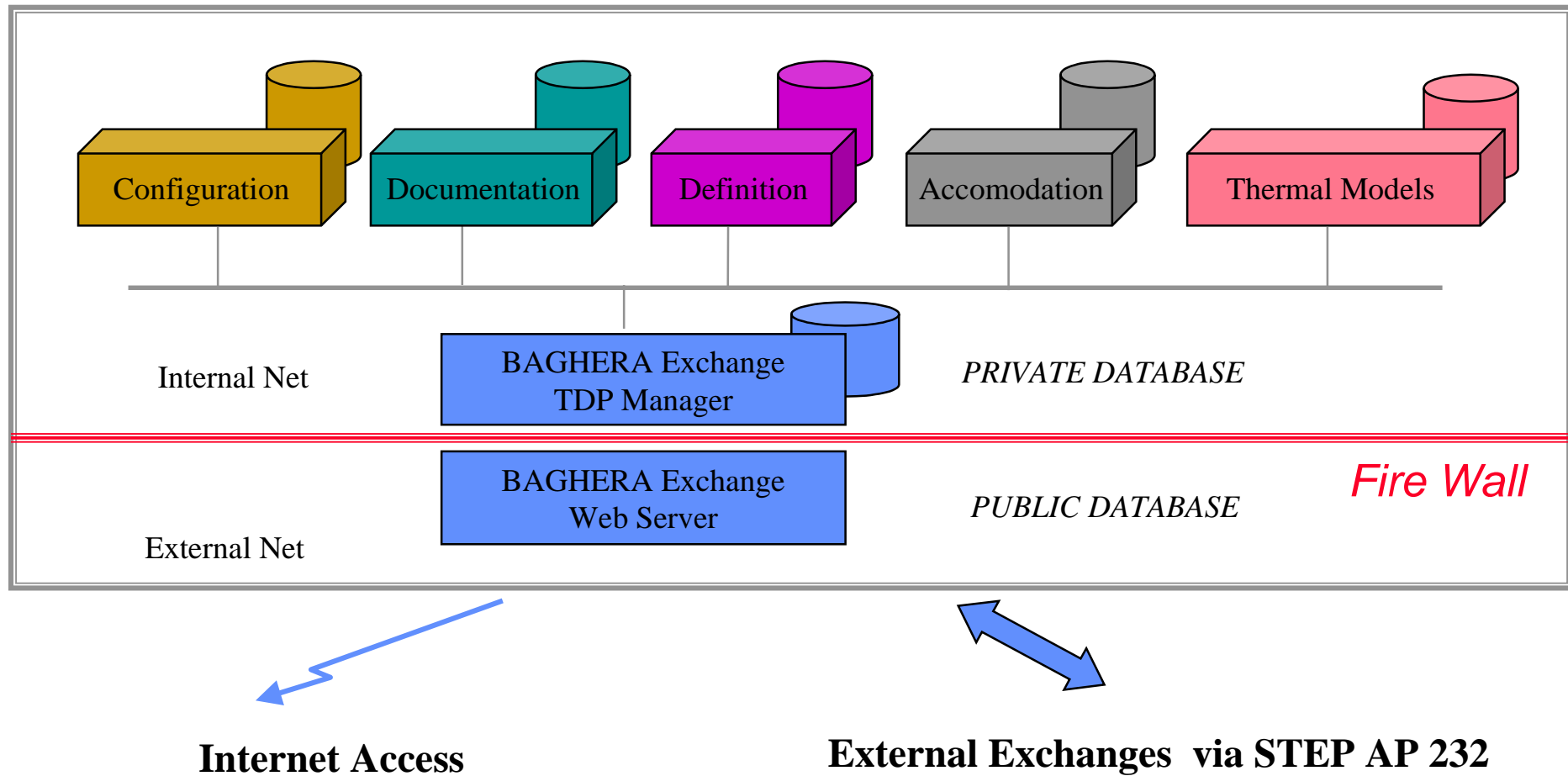


CNES Approach

- ❑ Use, development and promotion of Product Data standards to :
 - ↳ exchange data with partners,
 - ↳ ensure the smooth flow of data among fonctionnal groups (design, engineering, production, operations, etc.),
 - ↳ preserv the « technical memory » of the organisation.

- ❑ Development of an exchange database (Baghera Exchange) to solve data delivery and distribution :
 - ↳ Management of Data Packages,
 - ↳ Use of Internet to place information at actor 's disposal.

Baghera-Exchange principles



Technical choices

- ❑ Application based on STEP AP 232 :
 - ↳ Automatic generation of JAVA and SQL code from AP 232 ARM (STEPWISE european project)
 - ↳ Database schema based on Data Definition Exchange (DDE) UoF
 - ↳ Java early binding AP232 interface (JDBC)
- ❑ Distributed architecture over the network : CORBA
- ❑ Java User Interface
- ❑ Data Packages Data Base : ORACLE 8
- ❑ Web server compliant with security constraints :
 - ↳ Authentication
 - ↳ HTML directory publishing across the fire wall



BAGHERA Exchange :TDP Manager

The screenshot displays the Baghera-Exchange software interface, which is titled "Baghera-Exchange - Connected As demo". The interface includes a menu bar (Project, Edit, Data Package, Services, Tools, Window, Help) and a toolbar. The main workspace is divided into several panes:

- Projects Pane:** A tree view showing a hierarchy of projects. The "MSR (Administrator)" project is expanded, showing sub-projects like "DP-NetLander (In Work)", "DP-OrbiterMission (In Work - Edited by demo)", "DP-OrbiterVehicle (In Work)", and "SkyBridge (Administrator)". The "SkyBridge (Administrator)" project is further expanded, showing sub-projects like "DP-001 (In Work)", "DP-KOM (In Work)", "DP-PUB (Complete)", "DP-SS-CDR (Complete)", "DP-SS-DR (In Work)", "FILM (Complete)", "FILM(1) (Complete)", and "FILM(2) (Complete)".
- DP-OrbiterMission > DP-003 > Dimensioning trajectories - 2 element(s) Pane:** A table showing data for dimensioning trajectories. The table has columns for ID, Rev., Cha., and R. Date.
- MSR-THERM-002 [Read Only] Pane:** A detailed view of the "MSR-THERM-002" data package, showing a list of elements (EXCEL, FILM, PEG, PDF, PPT, WORD) and a table of data.
- Identification Pane:** A form for identifying the data package, with fields for Identifying Number, Title, Change Code, Action Status, Revision Level, Revision Date, Change Level, Change Date, Issue Level, and Issue Date.

The "MSR-THERM-002 [Read Only]" pane contains the following table:

ID	Rev.	Cha.
MSR-THERM-001	1	0
MSR-THERM-002	1	0

The "Identification" pane shows the following fields:

- Identifying Number: MSR-THERM-002
- Title: Radiative model
- Change Code: Original With Change
- Action Status: unknown / null
- Revision Level: 1
- Revision Date: 16 novembre 1999
- Change Level: 0
- Change Date:
- Issue Level:
- Issue Date:



BAGHERA Exchange : Web Server

DP-KOM

- DP-KOM
 - MG
 - PA
 - FM
 - DV
 - GCS
 - SA
 - SS

MG

DP-KOM > MG

General

Identifying Number MG

Nomenclature Or Name Management

Design Activity

Design Activity Code ASPI

Design Activity Identification ALCATEL

Design Engineer

Documents

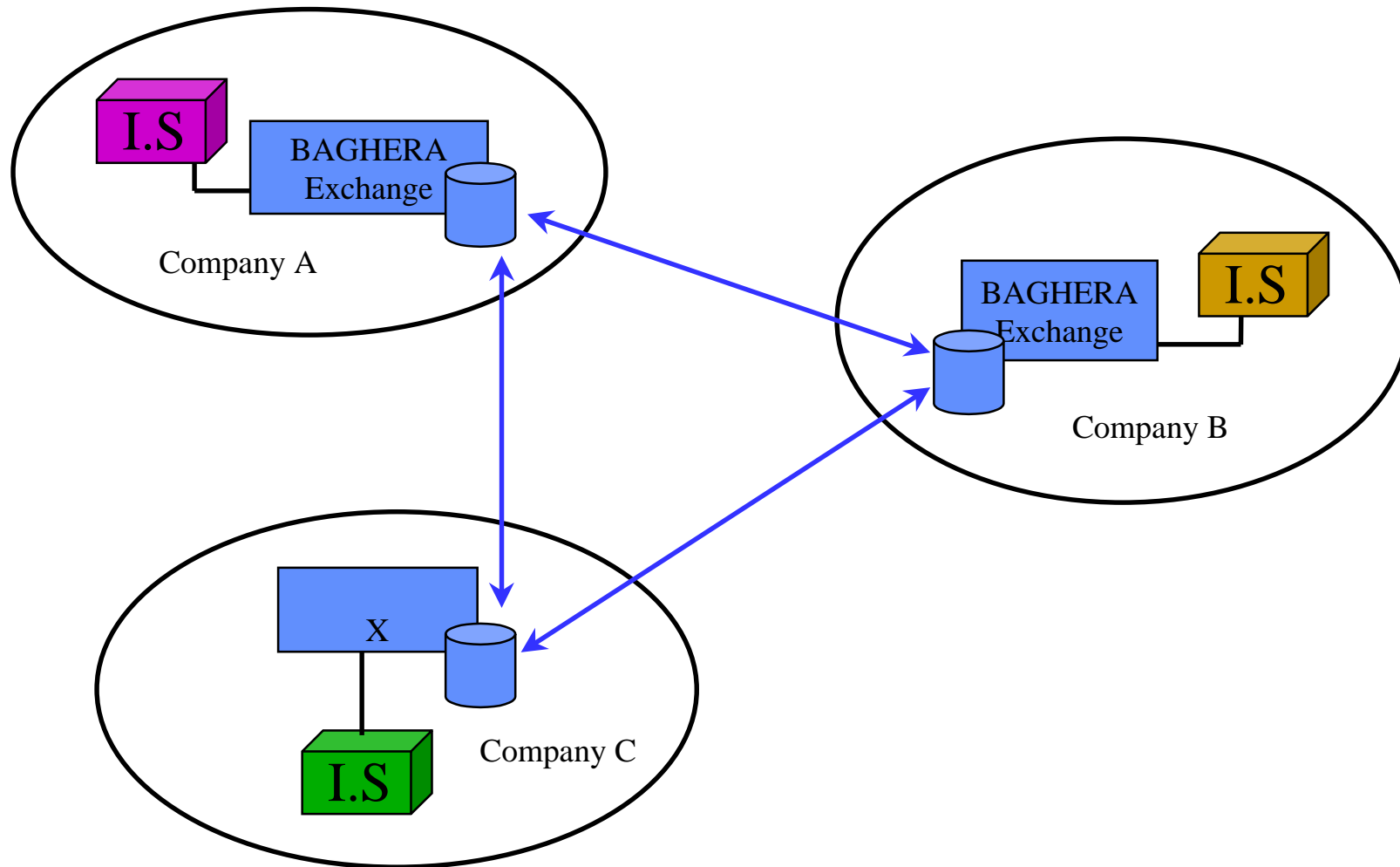
Identifying Number	Revision Level	Change L
SKBA-AES-SP-0442	04	=
SKBS-AES-PL-0108	04	=
SKBS-AES-LI-0342	01	=
SKBX-AES-PL-0374	01	=
SKBA-AES-SP-0259	02	=

For Review Professional - View: BAGWEB-1.HGL

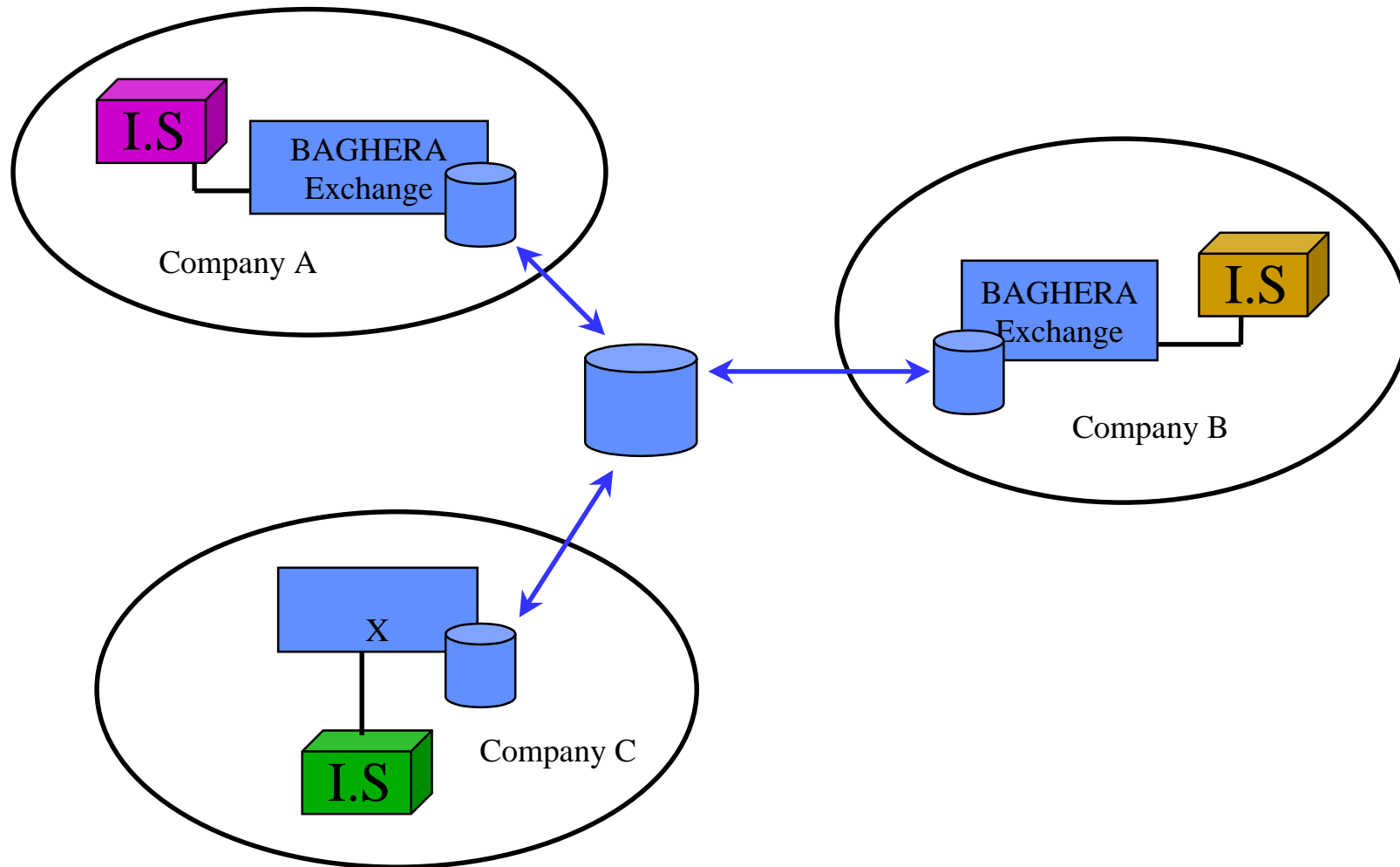
88%

8

One Web server by site...



... or One shared Web server

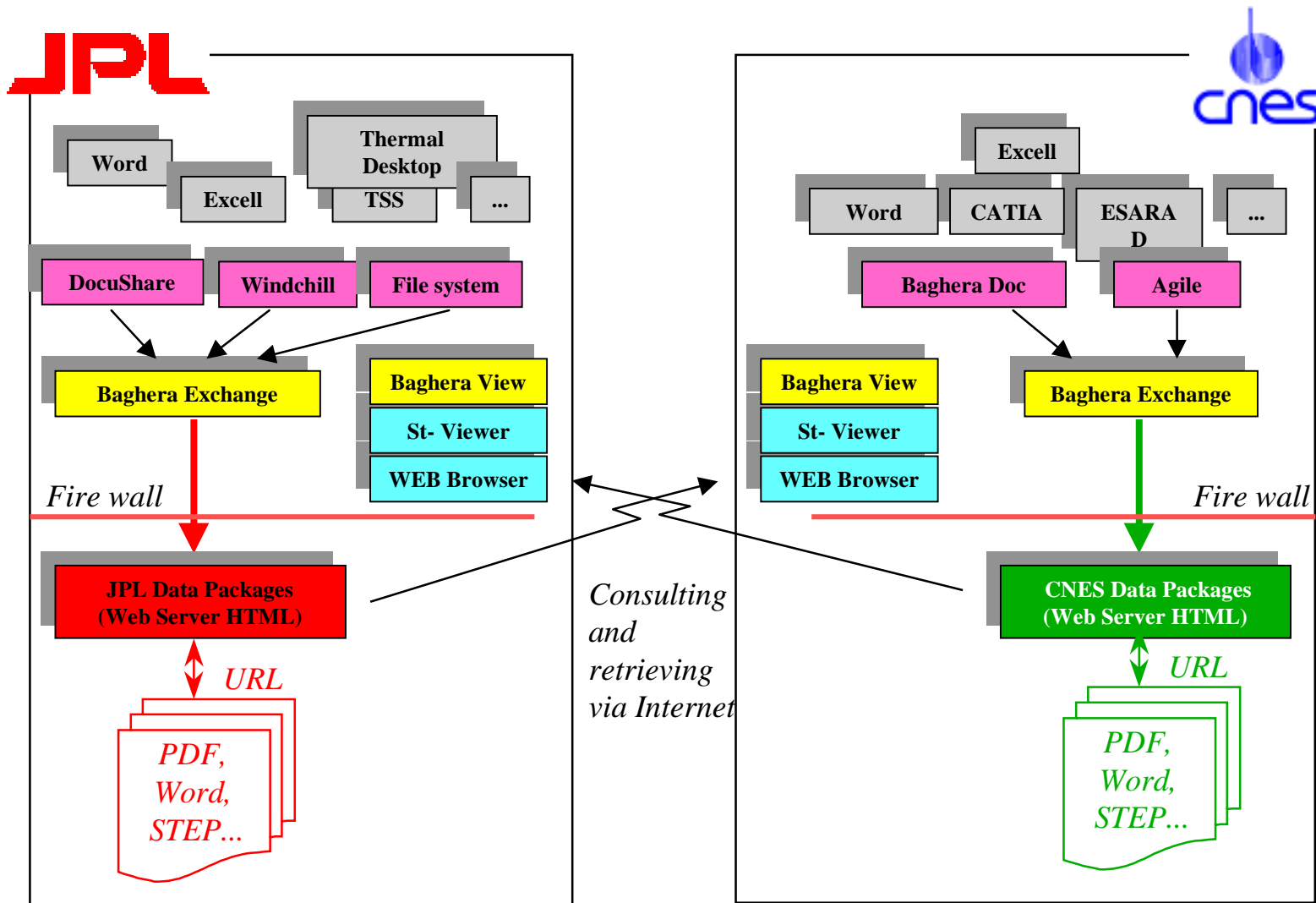




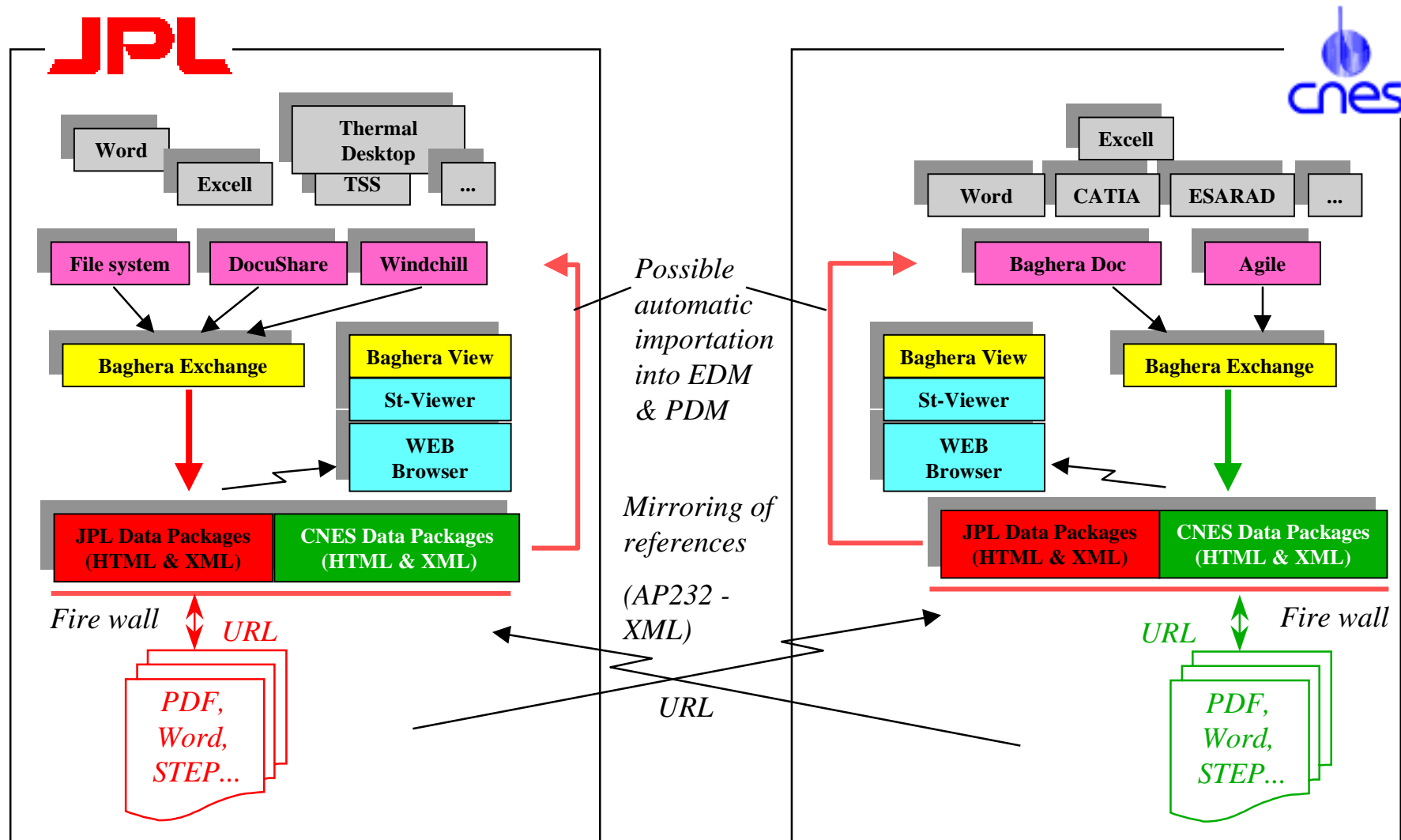
Proposal of a JPL-CNES co-operation

- ❑ Experimentation of exchange based on AP 232 in the frame of a pilot project :
 - ↳ Demonstration of an interface with JPL document system
 - ↳ Integration of JPL Core Meta-Data in the file system service
- ❑ Feed back to ISO AP 232 study
 - ↳ Possible issues related to space domain
 - ↳ Common work relating to XML implementation
 - ↳ JPL Core Meta-Data / AP 232 mapping

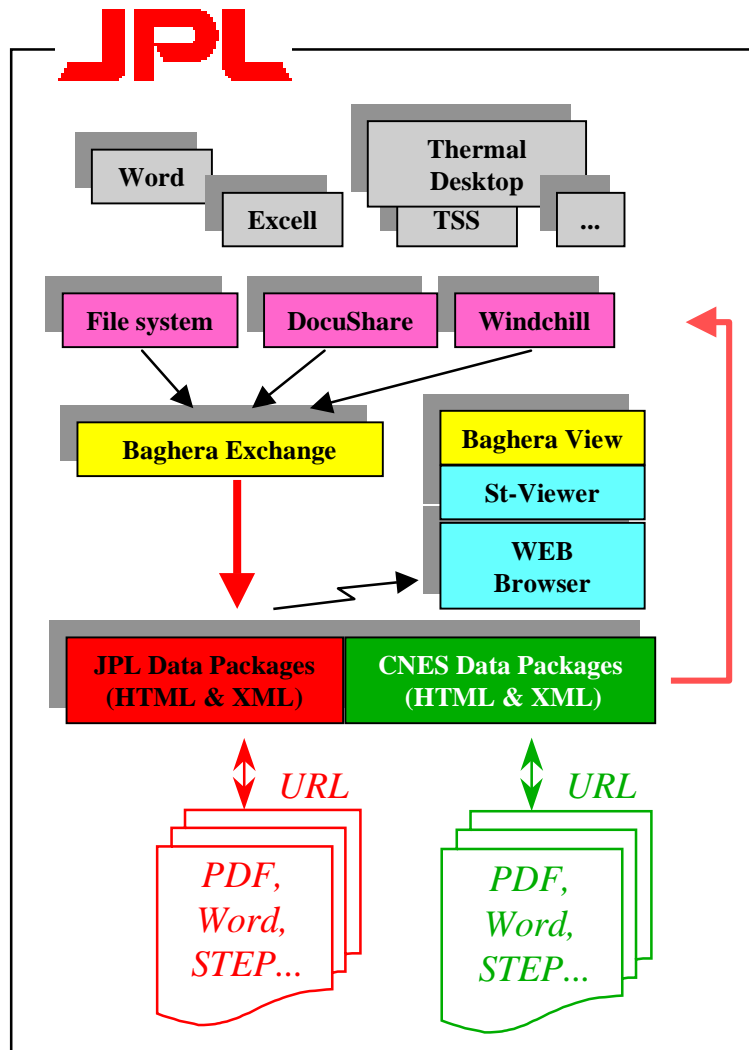
Prototype architecture proposal (stage 1)



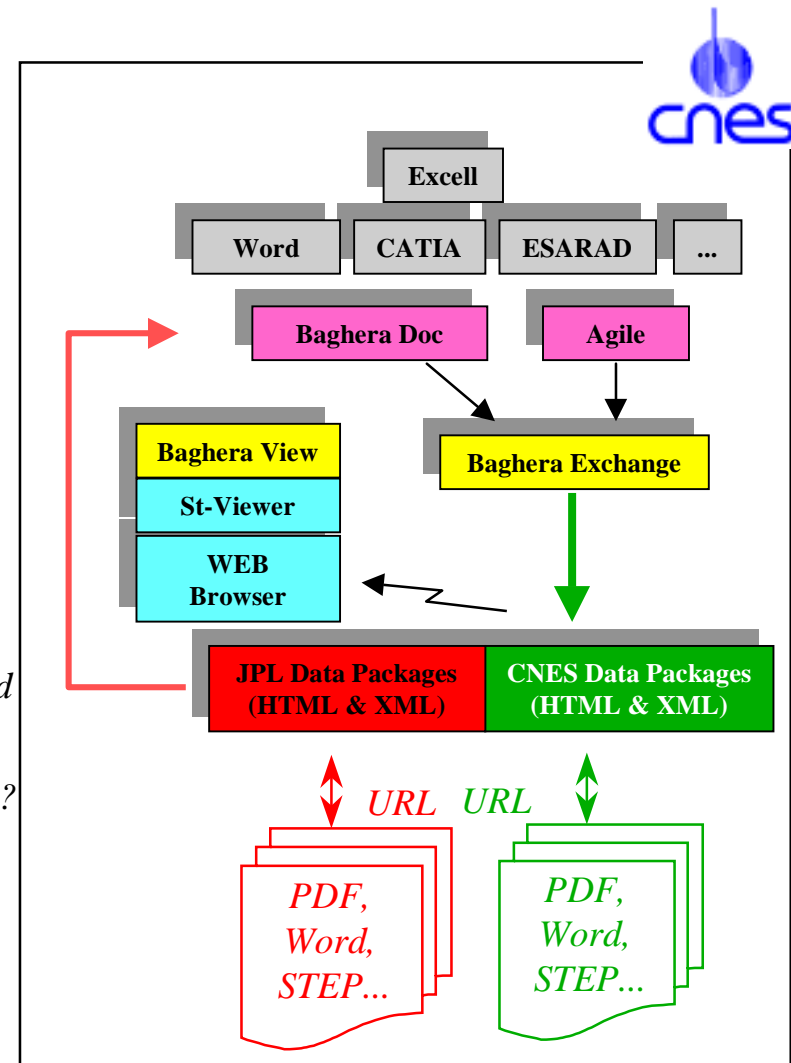
Prototype architecture proposal (stage 2)



Prototype architecture proposal (stage 3)



*Mirroring of
references and
contents
(XML AP232 ?
+ contents)*



Benefits of the approach

- ☐ Independent of companies Information System tools
- ☐ Tracability of the exchange
- ☐ Distinction between internal information and exchanged information (filtering)
- ☐ Capabilities of automatic or selective importation of partner data (meta-data + contents) into internal information system
- ☐ Common view on co-operative project between partners